Also on page 13, in the equation found between lines 13 and 14, please delete the sign "≥" and replace it with -≤-.

Remarks

Applicants respectfully request that the Examiner enter the above amendments. No new matter has been added. The amendments are made to correct a clerical error in the application. It is submitted that no new matter has been added as a person of ordinary skill in the art would have understood the error and what was actually intended. For convenience, a red-lined version of page 13 is attached for the Examiner's convenience.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this Preliminary Amendment, which may be required.

Respectfully submitted,

Date: 1-11-00

By: _____
Sarah Barone Schwartz
Reg. No. 40,284

FLIESLER, DUBB, MEYER & LOVEJOY LLP
Four Embarcadero Center, Suite 400
San Francisco, California 94111-4156
Telephone: (415) 362-3800

With DRR, the bandwidth for the particular data system is greater than or equal to the rate (R) the link times the weight (W) for a particular data stream divided by the sum of weights.

the SLA. Unlike ATM and other protocols, the packets do not need to be reformatted or modified in any way.

Once the packets have been classified according to their SLA, the packets are scheduled for transmission by scheduler 316 and placed in an appropriate output port 317. For purposes of continued discussion, the scheduling methods used herein are discussed with reference only to a single output port, although it is to be understood that a QoS Node could have more than one output port.

In order to guarantee quality of service for each SLA, a scheduler in one embodiment of the invention uses the Deficit Round Robin (DRR) scheduling method described previously with respect to Fig. 3. ~~With DRR, the rate (R) of the link times the weight (W) for a particular data stream divided by the sum of weights is greater than or equal to the bandwidth for the particular data stream.~~ In other words,

$$\frac{RW(i)}{W(1)+W(2)+\ldots+W(N)} \leq bandwidth.$$

Therefore, using the DRR scheduling method, a minimum quality of service for each SLA can be guaranteed.

Nonetheless, DRR may introduce delay and/or jitter into the bit stream, particularly when there are many queues. In other words, during the time that bits for SLA-1 are being sent, bits from the other SLA's must wait. Likewise, once SLA-1's turn has passed, no bits will be sent from SLA-1 until bits from all of the other participating SLA's have been sent. Such wait times may be unacceptable for some applications.

Therefore, in accordance with one embodiment of the invention, a new scheduling method is utilized, referred to herein as the Deficit Golden Ratio (DGR) method. To reduce jitter, DGR schedules the bits in a similar manner to that done for DRR, but rather than imposing wait times, the DGR method interleaves bits from each of the SLA queues. The distribution is performed utilizing the Golden Ratio: